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10/077,966	02/20/2002	Yasuaki Nakamura	520.41229X00	7046

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ALEXANDRIA, VA 22314

EXAMINER

PHAN, TAM T

ART UNIT	PAPER NUMBER
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2144

DATE MAILED: 07/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/077,966

Applicant(s)

NAKAMURA ET AL.

Examiner

Tam (Jenny) Phan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 February 2005.  
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-24 is/are rejected.  
7) ☒ Claim(s) 10 and 22-24 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 20 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. This application has been examined. Claims 1-24 are presented for examination.

#### *Priority*

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

3. The effective filing date for the subject matter defined in the pending claims which has support in parent JP 2001-295397 in this application is 09/27/2001 (Sept. 27, 2001). Any new subject matter defined in the claims not previously disclosed in parent JP 2001-295397, is entitled to the effective filing date of 02/20/2002 (Feb. 20, 2002).

4. Should applicant desire to obtain the benefit of foreign priority under 35 U.S.C. 119(a)-(d) prior to declaration of an interference, a translation of the foreign application should be submitted under 37 CFR 1.55 in reply to this action..

#### *Claim Objections*

5. Claims 10 and 22-24 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only. See MPEP § 608.01(n). For examining purposes, claims 10 and 22-24 will read as follow:

10. The control method of the data storage system according to claim 6 or 9, wherein said configuration information that said management server handles includes: setting concerning an internal access path of an external storage system, a logical unit, capacity of the logical unit, an access authority to the logical unit, or data move; setting concerning data copy between said external storage systems; setting or acquisition of performance control modes or performance data of said external storage systems; or setting of a data storage system maintenance method, fault occurrence, fault notification, or user operation.

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22. The data storage system according to claim ~~19~~ or 21, wherein said management server comprises a function of retrieving said configuration information database by specifying a file and time information those said computers handle.

23. The data storage system according to claim ~~19~~ or 21, wherein said management server comprises a function of displaying a modification history of a system configuration or a history of a system performance.

24. The data storage system according to claim ~~19~~ or 21, wherein said management server comprises a function that posts the time when the size of a file that an application of said computer uses reaches the capacity of a logical disk unit of said external storage system.

6. Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blumenau et al. (U.S. Patent Number 6,845,395), hereinafter referred to as Blumenau, in view of Sakakura et al. (U.S. Patent Number 5,625,795), hereinafter referred to as Sakakura.

9. Regarding claim 1, Blumenau disclosed a control method of a data storage system in which multiple external storage systems those store information are connected to a first network and each of them is arranged separately (Title, Abstract, Figure 3 signs 38a-d, Figure 6 signs 38a-c, column 5 line 66-column 6 line 4) comprising: generating an interrupt by an external storage system to a management

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server (Figure 8a signs 110 & 120, column 13 lines 51-56); issuing a control command by said management server to said external storage system (Figure 8b sign 184, column 15 lines 12-24); receiving by said management server, configuration information with which said external storage systems respond (column 8 lines 12-27, column 9 lines 17-22); and storing in a database said configuration information that said management server received (Figure 13, column 8 lines 12-27, column 9 lines 8-37).

10. Blumenau taught the invention substantially as claimed. However, Blumenau did not expressly teach a method having steps for issuing an exclusive control command by said management server to said external storage system.

11. Blumenau suggested exploration of art and/or provided a reason to modify the control method of a data storage system with additional features such as the exclusive control command (Figures 8a-8b, column 13 lines 51-56, column 15 lines 12-24, column 34 lines 18-26).

12. Sakakura disclosed a method having steps for issuing an exclusive control command by said management server to said external storage system (Title, Abstract, Figure 4 sign 402, column 2 lines 47-59, column 4 lines 43-58).

13. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the control method of Blumenau with the teachings of Sakakura to include the exclusive control command in order to avoid simultaneous update operations to the same data (Sakakura, column 1 lines 31-34) since an exclusive control is needed among a plurality of share resource devices (Sakakura, column 1 lines 45-49).

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14. Regarding claim 2, Blumenau and Sakakura combined disclose a control method of a data storage system in which multiple external storage systems those store information are connected to a first network and each of them is arranged separately (Blumenau, Title, Abstract, Figure 3 signs 38a-d, Figure 6 signs 38a-c, column 5 line 66-column 6 line 4), comprising: issuing an exclusive control command by a management server to multiple external storage systems (Sakakura, Title, Abstract, Figure 4 sign 402, column 2 lines 47-59, column 4 lines 43-58); receiving by said management server, configuration information with which said external storage system responded (Blumenau, column 8 lines 12-27, column 9 lines 17-22); and storing in a database, configuration information that said management server received (Blumenau, Figure 13, column 8 lines 12-27, column 9 lines 8-37).

15. Regarding claim 3, Blumenau and Sakakura combined disclose a control method wherein said management server acquires configuration information of said all external storage systems in point of time series and stores it in the database managed by said management server using said exclusive control command (Blumenau, column 8 lines 12-27, column 9 lines 8-22, column 33 lines 42-58; Sakakura, column 2 lines 46-59, column 4 lines 43-58).

16. Regarding claim 4, Sakakura disclosed a control method wherein a time series acquisition is made with a simultaneous and periodic inquiry into multiple external storage systems as moments (column 2 lines 46-59, column 4 lines 43-58).

17. Regarding claim 5, Blumenau and Sakakura combined disclose a control method of a data storage system in which multiple computers those use information and multiple external storage systems those store information are connected to a network

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respectively and each of them is arranged separately (Blumenau, Title, Abstract, Figure 3 signs 38a-d, Figure 6 signs 38a-c, column 5 line 66-column 6 line 4), comprising: logging on to a management server to request access permission (Blumenau, column 35 lines 27-31, column 36 lines 21-34); issuing an exclusive control command by said management server to said external storage systems (Sakakura, Title, Abstract, Figure 4 sign 402, column 2 lines 47-59, column 4 lines 43-58); receiving by said management server configuration information with which said external storage system respond (Blumenau, column 8 lines 12-27, column 9 lines 17-22); and storing in a database said configuration information that said management server received (Blumenau, Figure 13, column 8 lines 12-27, column 9 lines 8-37).

18. Regarding claim 6, Blumenau and Sakakura combined disclose a control method of a data storage system wherein said management server acquires configuration information of said all external storage systems and stores it in the database managed by said management server using said exclusive control command (Blumenau, column 8 lines 12-27, column 9 lines 8-22, column 33 lines 42-58; Sakakura, column 2 lines 46-59, column 4 lines 43-58).

19. Regarding claim 7, Blumenau and Sakakura combined disclose a control method of a data storage system further comprising: activating application programs of said multiple computers based on said exclusive control command issued by said management server (Sakakura, Title, Abstract, Figure 4 sign 402, column 2 lines 47-59, column 4 lines 43-58); and receiving by said management server, host logical configuration information from said multiple computers (Blumenau, column 6 lines 46-65, column 8 lines 12-27, column 9 lines 8-22).

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20. Regarding claim 8, Blumenau disclosed a control method of a data storage system wherein said configuration information stored in said database and said host logical configuration information are associated and stored in a database (column 8 lines 12-27, column 9 lines 8-22, lines 39-62).

21. Regarding claim 9, Blumenau and Sakakura combined disclose a control method of a data storage system in which multiple computers those use information and multiple external storage systems those store information are connected to a network respectively and each of them is arranged separately (Blumenau, Title, Abstract, Figure 3 signs 38a-d, Figure 6 signs 38a-c, column 5 line 66-column 6 line 4), comprising: logging on to a management server to request access permission (Blumenau, column 35 lines 27-31, column 36 lines 21-34); sending configuration information by said management server (Blumenau, column 6 lines 46-65, column 8 lines 12-27, column 9 lines 8-22); instructing said management server to change said configuration information (Blumenau, column 6 lines 46-65, column 8 lines 12-27, column 9 lines 8-22); issuing an exclusive control command by said management server to multiple external storage systems (Sakakura, Title, Abstract, Figure 4 sign 402, column 2 lines 47-59, column 4 lines 43-58); receiving by said management server the completion of a setting of said configuration information with which said external storage systems responded (Blumenau, column 8 lines 12-27, column 9 lines 17-22); and storing in a database by said management server, a change of said configuration information (Blumenau, Figure 13, column 8 lines 12-27, column 9 lines 8-37).

22. Regarding claim 10, Blumenau disclosed a control method of a data storage system wherein said configuration information that said management server handles



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includes: setting concerning an internal access path of an external storage system, a logical unit, capacity of the logical unit, an access authority to the logical unit, or data move; setting concerning data copy between said external storage systems; setting or acquisition of performance control modes or performance data of said external storage systems; or setting of a data storage system maintenance method, fault occurrence, fault notification, or user operation (Figures 14-17, column 9 lines 39-62, column 17 lines 45-60).

23. Regarding claim 11, Sakakura disclosed a control method of a data storage system wherein an external storage system that is an object of a change of its configuration information is recognized and said exclusive control command is issued to only said external storage system (column 6 lines 39-63, column 8 lines 29-49, column 9 lines 30-39).

24. Regarding claim 12, Blumenau and Sakakura combined disclose a control method of a data storage system in which multiple computers those use information and multiple external storage systems those store information are connected to a network respectively and each of them is separately (Blumenau, Title, Abstract, Figure 3 signs 38a-d, Figure 6 signs 38a-c, column 5 line 66-column 6 line 4), comprising: issuing an exclusive control command by a management server to multiple external storage systems (Sakakura, Title, Abstract, Figure 4 sign 402, column 2 lines 47-59, column 4 lines 43-58); receiving by said management server configuration information with which said external storage systems respond; activating application programs of said multiple computers based on said exclusive control command issued by said management server (Blumenau, column 8 lines 12-27, column 9 lines 17-22); receiving by said

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management server, host logical configuration information from said multiple computers; and storing in a database by said management server said received configuration information and host logical configuration information (column 8 lines 12-27, column 9 lines 8-22, lines 39-62).

25. Regarding claim 13, Blumenau disclosed a control method of a data storage system further comprising: generating an interrupt by said external storage systems to said management server (Figure 8a signs 110 & 120, column 13 lines 51-56).

26. Regarding claim 14, Blumenau and Sakakura combined disclose a control method of a data storage system wherein said management server acquires configuration information of the whole data storage system in point of time series and associates them, then stores them in a database of the management server using the exclusive control command (Blumenau, column 8 lines 12-27, column 9 lines 8-22, column 33 lines 42-58; Sakakura, column 2 lines 46-59, column 4 lines 43-58).

27. Regarding claim 15, Blumenau and Sakakura combined disclose a control method of a data storage system in which multiple computers those use information and multiple external storage systems those store information are connected to a network respectively, each of them is arranged separately, and the data storage system has a management server connected via a first network (Blumenau, Title, Abstract, Figure 3 signs 38a-d, Figure 6 signs 38a-c, column 5 line 66-column 6 line 4), comprising: inputting a file type and time those said multiple computers use, to said management server (Figures 13, 19-20, column 30 lines 1-19); retrieving by said management server a configuration information database and displaying a physical storage position of a logical unit that corresponds to said file (Figures 13-17, column 24 lines 38-53, column

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25 line 57-67); retrieving another logical unit related to said physical storage position and displaying said another logical unit (Figures 13-17, column 9 lines 39-62); retrieving data in which a modification history of said data storage system is accumulated, and displaying modified contents of said data storage system related to said storage position before said time (Figure 3 sign 69, Figures 14-16, column 30 lines 32-58); retrieving data in which a performance history of a logical unit is accumulated, and displaying a performance of a logical volume after said time (Figures 14-17, column 9 lines 8-38); and displaying or posting said modified contents of said system when the performance of said logical volume is degraded (Figures 14-17, column 9 lines 8-38).

28. Regarding claim 16, Blumenau and Sakakura combined disclose a control method of a data storage system in which multiple computers those use information and multiple external storage systems those store information are connected to a network respectively, each of them is arranged separately, and the data storage system has a management server connected via a first network (Blumenau, Title, Abstract, Figure 3 signs 38a-d, Figure 6 signs 38a-c, column 5 line 66-column 6 line 4), comprising: inquiring by a management server, a computer of the size of a file that an application software of said computer uses, and receiving a response in point of time series; and retrieving by said management server, association between a logical disk unit and said file that was stored in the unit from contents of a configuration information database, and indicating a relationship between the capacity of said logical disk unit and the size of said file in point of time series (Blumenau, column 8 lines 12-27, column 9 lines 8-22, column 33 lines 42-58; Sakakura, column 2 lines 46-59, column 4 lines 43-58).

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29. Regarding claim 17, Blumenau disclosed a control method of a data storage system wherein said relationship predicts, displays or posts the time when said capacity of said logical disk unit and said file size become equal using the contents of said configuration information database (column 25 lines 57-column 26 line 21, column 30 lines 1-19).

30. Regarding claim 18, Blumenau and Sakakura combined disclose a data storage system in which multiple external storage systems that store information are connected to a network and each of them is arranged separately, each external storage system has an external connection interface that sends event information in order to define or refer to its own configuration, show performance and data or post a fault (Blumenau, Title, Abstract, Figure 3 signs 38a-d, Figure 6 signs 38a-c, column 5 line 66-column 6 line 4), comprising: a management server part as its part, which is connected to said external storage system; and a configuration information database that accumulates event information of said multiple external storage systems via said external connection interface in point of time series (Blumenau, column 8 lines 12-27, column 9 lines 8-22, column 33 lines 42-58; Sakakura, column 2 lines 46-59, column 4 lines 43-58).

31. Regarding claim 19, Blumenau and Sakakura combined disclose a data storage system wherein said management server part issues an exclusive control command to said multiple external storage systems when event information in said configuration information database is accumulated in point of time series (Blumenau, column 8 lines 12-27, column 9 lines 8-22, column 33 lines 42-58; Sakakura, column 2 lines 46-59, column 4 lines 43-58).

32. Regarding claim 20, Blumenau and Sakakura combined disclose a data storage system in which multiple computers those use information and multiple external storage systems those store information are connected to a network respectively and each of them is arranged separately, each computer installs an application for acquiring its own host logical configuration information, each external storage system has an external connection interface that sends event information in order to define or refer to its own configuration, to show performance and data, or to post a fault (Blumenau, Title, Abstract, Figure 3 signs 38a-d, Figure 6 signs 38a-c, column 5 line 66-column 6 line 4), comprising: a management server part as its part; and a configuration information database; wherein the part is connected to said external storage systems and accumulates event information of said multiple external storage systems via said external connection interface into said configuration information database, and the part is connected to said computers and accumulates host logical configuration information of said multiple computers via said network, in point of time series (Blumenau, column 8 lines 12-27, column 9 lines 8-22, column 33 lines 42-58; Sakakura, column 2 lines 46-59, column 4 lines 43-58).

33. Regarding claim 21, Blumenau and Sakakura combined disclose a data storage system wherein said management server part makes said event information of said multiple external storage systems and said host logical configuration information correspond to each other when they are accumulated in said configuration information database in point of time series (Blumenau, column 8 lines 12-27, column 9 lines 8-22, column 33 lines 42-58; Sakakura, column 2 lines 46-59, column 4 lines 43-58).

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34. Regarding claim 22, Blumenau disclosed a data storage system wherein said management server comprises a function of retrieving said configuration information database by specifying a file and time information those said computers handle (Figures 13-17, column 9 lines 8-38, column 24 lines 38-53).

35. Regarding claim 23, Blumenau disclosed a data storage system wherein said management server comprises a function of displaying a modification history of a system configuration or a history of a system performance (Figures 13-17, column 9 lines 8-38).

36. Regarding claim 24, Blumenau disclosed a data storage system wherein said management server comprises a function that posts the time when the size of a file that an application of said computer uses reaches the capacity of a logical disk unit of said external storage system (column 25 lines 57-column 26 line 21, column 30 lines 1-19).

37. Since all the limitations of the claimed invention were disclosed by the combination of Blumenau and Sakakura, claims 1-24 are rejected.

### ***Conclusion***

38. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Refer to the enclosed PTO-892 for details.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tam (Jenny) Phan whose telephone number is (571) 272-3930. The examiner can normally be reached on M-F 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Wiley can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MARC D. THOMPSON  
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PRIMARY EXAMINER

Tam T. Phan  
July 6, 2005

*tp*